

# Report on a Special Investigation of the Shosoin Treasures —Identification of Bast Fibers

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The Office of the Shosoin Treasure House conducted a special investigation of the Shosoin Treasures, particularly focusing on those artifacts with *asa* (麻, the term generally refers to ramie or hemp fibers in Japan, but here more broadly bast fibers) materials used. The aim of the study was to understand the physical characteristics of the materials, as well as to identify the plant species.

In total, sixty-four *asa*-related artifacts were examined: bags for folding screens, medicines and incense; fabric cores of silk sashes for bronze mirrors and wooden trunks; lining fabrics of silk placemats; floor coverings and wall hangings; strings of hand drum and *Shilla* harps; headdresses and caps; cloth masks and dry-lacquer masks for *Gigaku* performances; lining fabrics of elaborate silk shoes and leather shoes; bowstring for Japanese bow; strings wrapped around the hilts of swords; padding for saddlery and reins for horse-riding; tying strings for bronze spoons; painted cloths with scenery and bodhisattva; and lengths of plain-weave fabrics from *Chō* 調 and *Yō* 庸 tax payments.

Macroscopic observations were carried out with the objects to examine the physical characteristics relating to fiber processing, yarn preparation and weaving techniques. Fiber samples were examined under optical microscopes: both longitudinal and cross-sectional morphologies of fibers were compared with reference fiber samples for identification. In addition, the Graff “C” staining test (JIS P 8120: 1998) was undertaken with the samples. The prepared known samples included fibers of ramie (*choma* 苧麻), Japanese nettle, *Urtica* L. (*irakusa*), *Boehmeria tricuspis* Makino (*akaso* 赤麻), hemp (*taima* 大麻), jute (*ōma* 黄麻), flax (*ama* 亜麻), paper mulberry (*kōzo* 楮), wisteria (*fuji* 藤), Gramineae, etc.

As a result, the textile artifacts produced domestically were found to be mostly made of either ramie or hemp fibers. Unique exceptions included the use of *kōzo* fibers in one of the bags, *irakusa* fibers with one of the plain-weave fabrics made for tax payment, and unknown *fuji*-like fibers in one of the bags for folding screens. The original tying strings for bronze spoons, possibly imports from *Shilla*, were identified as hemp. The silk shoes, most likely to be imported from Tang, China have interlining fabrics woven with jute. The jute plant itself is not obviously indigenous to Japan, and this result may support the import scenario.

Above all, this study enabled us to understand the usage of *asa* materials in the Nara period. It became apparent that people in the Nara period had not necessarily been specific about or distinguished the fiber types in *asa* materials. For example, both ramie and hemp fabrics are found in a group of *asa* bags used for a same purpose, i.e., for beeswax.

# Textile Artifacts and Inscriptions relating to *Chō* and *Yō* Taxes of the Shosoin Treasure House, Part I: *Asa* (Bast Fibers) Textiles

—Supplementing Junsei Matsushima's *Compilation of Inscriptions of the Shosoin Treasures*

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The Office of the Shosoin Treasure House, the Imperial Household Agency, conducted a special investigation on bast fibers used among *asa*<sup>(1)</sup>-related artifacts in the Shosoin treasures, from 2013 to 2015. As is generally known, the Shosoin Treasure House holds a large number of textile artifacts, made of *asa-nuno*<sup>(2)</sup> or *ashi-ginu* (紵 a plain-weave silk fabric) with clear provenances of where they were produced in ancient Japan. Lengths of woven *asa* cloths as well as those products made of *asa* fabrics were included for examinations. It was expected that this special investigation would clarify about the fiber materials used in them.

Most of these *asa* fabrics derived from the *Chō* 調 and *Yō* 庸 taxes prescribed under the *Ritsu-ryō* 律令 Codes System in the Nara Period. *Asa-nuno* and *ashi-ginu* fabrics were authorized by the government at that time to be equivalent to money, and were widely accepted as a medium of payment. *Buyakuryō* 賦役令, the compulsory regulations on tax payments stipulated that the name of a tax payer should be inscribed along with the province, district and village in which one lived, as well as the type of tax, its quantity, payment date; and finally imprinted with one's provincial seal. The inscriptions in *sumi* ink remain on the Shosoin textiles are the actual examples of this system.

Alongside the special investigation of *asa-related* artifacts, the author reexamined the inscriptions and provincial seals on them. In this field, Junsei Matsushima's *Shosoin Homotsu Meibun Shūsei* (Compilation of Inscriptions of the Shosoin Treasures)<sup>(3)</sup> is considered a reputable and dependable source; and, this paper provides additional findings in the form of a revised and enlarged edition of the Chapter 3, the inscriptions related to the *Chō* and *Yō* taxes in his publication. Based on the observation of the actual artifacts, this paper also discusses about some viewpoints on the front and rear ends, and obverse and reverse sides of a fabric in relation to the weaving process, off the loom, and the position of provincial seal and inscriptions.

(1) *asa* 麻 the term generally refers to ramie or hemp fibers in Japan, but here more broadly bast fibers.

(2) *nuno* 布 the term presently refers to a woven cloth of any fiber type, but in ancient Japan those plain-weave fabrics made of ramie or hemp.

(3) Matsushima, J. 1978. *Shosoin Homotsu Meibun Shūsei* 正倉院宝物銘文集成 [Compilation of Inscriptions of the Shosoin Treasures]. Tokyo: Yoshikawa Kōbunkan (the text in Japanese).

# Basic Study on Ancient Japanese Loan Records, *Gesshakusen-ge*

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This paper paleographically discusses *Gesshakusen-ge*, ancient Japanese monetary loan records in the Shosoin Documents. There are a large number of these manuscripts from the *Hoki* 宝亀 Era (770–780), which show ancient lower-ranking officials applying for term loans with interests. All the applications were submitted to *anzu* (案主 management administrator) by *shakyō-sei* (写経生 Buddhist sūtra transcribers engaged in sūtra copying, including proofreaders and scroll mounters) working for the *shakyōjo* (写経所 scriptorium) under the Tōdaiji Construction Bureau. The *anzu* had kept track of the borrowing and lending of money by consecutively pasting the submitted sheets and keeping notes there. The overview of the concept, and the financially hard life of the *shakyō-sei* have been described by previous studies, yet the overall system of the loan remains unclear. Particularly, how *anzu* actually processed these submitted papers has not been examined sufficiently.

In this study, the author identified ninety-six documents as loan records among the Shosoin Documents, and conducted a detailed examination on each of these documents. As a result, the practical aspects of the paperwork by *anzu* were clarified: the eligibility for loan, amount of money to be borrowed, and progress of repayment were sequentially recorded with marks and symbols. It was also found that a record became invalidated when the debt was all repaid, and the sheet was physically removed from the pasted length. The blank reverse side thereof was reused for another purpose. The loan records currently remain in the Shosoin Documents are regarded as all those invalidated and removed ones from the initial pasted length at a certain point in time; consequently, it is likely that the original sets of loan records must have existed. It is therefore theorized that a large number of loans were conducted besides those recorded in the existing documents.

This may imply that almost all *shakyō-sei* were led to apply for loan; and that *anzu* also lent money to outside debtors beyond the scriptorium. The administrator thus probably earned a profit, and appropriated it to the operations of the scriptorium. Taking into consideration of these factors it may be concluded that the monetary loan in the *Hoki* Era came of more forced solicitation by the administrator than necessity for living expenses of lower-ranking officials of their own accord.